ties or medications. This study aimed to determine the association of metabolic syndrome (MetS) and SGA use, and the incremental contributions of select psychiatric comorbidities and polypharmacy. **METHODS:** We applied descriptive and regression analyses to a large administrative claims database of antipsychotic users to examine the association between SGAs (aripiprazole, ziprasidone, risperidone, quetiapine, and olanzapine) and MetS, as well as the effects of psychiatric comorbidity and polypharmacy. Select psychiatric comorbidities included schizophrenia, bipolar, depression, and other psychiatric disorders. Psychiatric polypharmacy was defined as concomitant use of antipsychotics with other psychiatric drugs with metabolic effects (selective serotonin reuptake inhibitors [SSRIs], tricyclic antidepressants [TCAs], other antidepressants, and mood stabilizers). **RESULTS:** Of 50,128 antipsychotic users, the prevalence of MetS was lower in SGA users than non-SGA users (7.6% vs. 12.8%; $P < 0.0001$), who were older and had higher prevalence of MetS components. However, SGA users exhibited more indicators of psychiatric severity, as evidenced through higher prevalence of psychiatric disorders and higher concomitant use of other psychiatric drugs. Multivariable regression analysis showed the odds of MetS was lower in SGA users (OR = 0.86; $P < 0.001$) than non-SGA users. Concomitant use of SSRIs and TCAs significantly increased the odds of having MetS (OR = 1.26 and 1.29, respectively), as did diagnoses of schizophrenia, bipolar or depression disorders (OR = 1.22, 1.18, 1.12, respectively) (all $P < 0.001$). **CONCLUSIONS:** Psychiatric comorbidity and polypharmacy significantly increase the odds of MetS in antipsychotic users. Findings demonstrate the need for practitioners to consider patients' psychiatric comorbidity and polypharmacy burdens when prescribing SGAs. Results suggest that prescribers of SGAs may be aware of metabolic effects and therefore prescribe non-SGAs to their more metabolically-vulnerable patients. Further research into the complexities of treatment patterns and outcomes in this comorbid population is warranted.

PMH2

EARLY RESPONSE PREDICTS SUBSEQUENT RESPONSE TO OLANZAPINE LONG-ACTING INJECTIONS IN THE TREATMENT OF SCHIZOPHRENIA

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OBJECTIVES: Early nonresponse to oral antipsychotics was previously shown to be a robust predictor of subsequent nonresponse to continued treatment with the same medication in the treatment of schizophrenia. This study assessed whether early response or early nonresponse to treatment can serve as a clinical marker in the treatment of schizophrenia with an atypical antipsychotic in long-acting injection formulation (depot). **METHODS:** This post hoc analysis used data (n = 233) from an 8-week randomized, double-blind placebo-controlled study of olanzapine long-acting injection (olanzapine-LAI) in the treatment of inpatients with schizophrenia. Early response to olanzapine-LAI was defined as ≥30% improvement on the PANSS total score (scored 0–6) from baseline to 4 weeks of treatment. Subsequent response was defined as ≥40% improvement on the PANSS total score from baseline to endpoint. Predictive accuracy was assessed by calculating sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall predictive accuracy. Early responders and early non-responders to olanzapine-LAI were also compared on change in clinical and functional outcome measures. **RESULTS:** Early response/nonresponse to olanzapine-LAI, assessed following 4 weeks of treatment, predicted subsequent response/nonresponse with a high level of overall accuracy (79%), sensitivity (85%), specificity (72%), PPV (78%), and NPV (80%). Compared to early non-responders, early responders had significantly longer time to all-cause treatment discontinuation, greater symptom improvement at all time points (per PANSS total and subscale scores), and greater improvement in quality of life and level of social functioning (all at $P \geq 0.01$). **CONCLUSIONS:** In this study of inpatients with schizophrenia, early response to olanzapine long-acting injection was found to be a robust predictor of subsequent response to the medication. Early responders experienced significantly better clinical and functional outcomes compared to early non-responders and had longer treatment duration. Current findings are consistent with previous research on oral antipsychotics and will require replication in future studies.

PMH3

A MULTILEVEL ANALYSIS OF AREA AND INDIVIDUAL EFFECTS ON METHADONE MAINTENANCE TREATMENT IN TAIWAN

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OBJECTIVES: Many studies have shown that the methadone maintenance treatment (MMT) can effectively and safely reduce heroin use. However, most studies only evaluated and compared drug treatment programs, but did not investigate the influence of area of treatment on individual behaviors and treatment outcome. This study, therefore, aimed to evaluate direct effects of area-level characteristics and interactive effects of area-level characteristics and individual characteristics on Methadone maintenance treatment, after considering individual-level characteristics in Taiwan. **METHODS:** All opioid-dependent persons from five hospitals in 2009 who were participating in the outpatient methadone maintenance program for the first time and met eligibility criteria were enrolled into the study. The impact of MMT on self–perceived health status was assessed by the case manager of each hospital. Health status and treatment outcome were investigated at the first outpatient visit and at 3-month follow-ups. Individual level and area level characteristics were also assessed. Multilevel linear models were used to estimate if the differences of quality of life and opioid treatment index before and after the MMT were significant. **RESULTS:** A total of 330 opioid-dependent patients were recruited in the study. During the follow-up period, 38% of participants completed study (N = 127). The mean age of study participants was 35 years. Most of participants were male, single, low education level, unemployed and smoking. Patients under MMT had statistically significant improvements in total quality of life ($t = -4.293$, $P < 0.000$), opioid treatment index (OTI) ($t = 8.44$, $P < 0.000$), and the satisfaction of quality of life ($t = -4.498$, $P < 0.000$). Furthermore, our result indicated that the schizophrenic and older patients had significantly poorer results. In addition, area of treatment was also significantly associated with OTI. **CONCLUSIONS:** MMT improves the quality of life of patients and reduce drug abuse problems. However, actions should be taken to minimize the variations among areas of treatment.

PMH4

LABOR FORCE WITHDRAWAL OF PATIENTS WITH PSYCHIATRIC ILLNESS IN TAIWAN

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OBJECTIVES: This study aimed to estimate the withdrawal rate from the labor market among patients with schizophrenia or bipolar/depression in Taiwan. **METHODS:** The data source was the Psychiatric Inpatients Medical Claims Data (PIMC) from the National Health Research Institute (NHRI), Taiwan. The PIMC compiled all the health records during 1996–2008 for patients who had at least one psychiatric hospitalization during 1996–2001. The inclusion criteria were patients who: 1) had their initial psychiatric health record within 1998 to 2001; 2) had primary or secondary ICD-9-CM diagnosis of schizophrenia, bipolar or depression; 3) were under employment; and 4) were aged between 18 and 65. The final sample available for the analyses was 23,174 (11,970 for schizophrenia; 11,204 for bipolar/depression). An index date was created by subtracting 365 days from the date of initial health record for examining the impact of the disease on withdrawal pre and post of disease onset. To identify all withdrawal events, each case was tracked from the index date until December 31, 2008 or death, whichever came first. Women without events were censored on December 31, 2008. Kaplan–Meier method was used to estimate cumulated employment rates. **RESULTS:** For patients with schizophrenia, withdrawal rate of 34% was found during 1 year before the disease onset. During 1 year before and one after the disease onset, the withdrawal rate increased to 52%. During 1 year before and 4 years after the disease onset, the rate raised to 78%. Similar patterns were observed for patients with bipolar/depression, with the corresponding rate equaling 34%, 52%, and 75%. Median employment time (95% CI) was 672.0 days (645.0, 698.0) for patients with schizophrenia, and 689.5 days (662.0 to 712.0) for patients with bipolar/depression. **CONCLUSIONS:** Schizophrenia, bipolar and depression were showed to have adverse impacts on labor participation.

MENTAL HEALTH – Cost Studies

PMH5

A DIRECT MEDICAL COST ANALYSIS OF GEROPSYCHIATRIC PATIENTS IN TAIWAN

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OBJECTIVES: The aims of this study are to estimate the direct medical costs and utilization rate of psychiatric services among elder people (aged 65 and over) in Taiwan, and to evaluate the costs of the top five geriatric mental disorders. **METHODS:** This study was based on the National Health Insurance Research Database of Taiwan's National Health Insurance (NHI) program. Detailed data was extracted from the Psychiatric Inpatient Medical Claim (PIMC) dataset. The PIMC included 96,013 psychiatric inpatients' data from 1996 to 2007. **RESULTS:** From 2002 through 2007, the sample included 15,109 (16% of all psychiatric inpatients) geropsychiatric inpatients. The total admissions were 19,137 and the hospitalization rate was 1.27 per person per year. The average LOS (length of stay) was 35.05 days (acute bed), 78.71 days (chronic bed), and average ambulatory visits were 9.48 per patient per year. The mean total hospital-related cost was USD 7.2 million and the mean cost for each patient was USD 2828 per year. The top five ranking mental disorders and their average costs per year were dementia (987 patients, USD 2.6 million), mood disorders (616, USD 1.6), schizophrenia (276, USD 1.0), other organic brain disorders (254, USD 0.6), and delusional disorders (149, USD 0.9). **CONCLUSIONS:** From 2002 through 2007, the direct medical costs and utilization rate of psychiatric facilities by geropsychiatric inpatients increased annually in Taiwan. The direct medical costs of dementia, mood disorder and schizophrenia were significantly higher than those of the other mental disorders. The direct medical expenditures estimated in this study have implications for assessment of financial impact on future insurance budget planning in Taiwan.